

**MWH**

MONTGOMERY WATSON HARZA

December 3, 2001

US EPA RECORDS CENTER REGION 5



466193

Mr. Kevin Adler  
Remedial Project Manager  
U.S. Environmental Protection Agency  
Region V, SR-6J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Re: Groundwater Treatment System  
Quarterly Monitoring Report – Second Quarter 2001  
ACS NPL Site

Dear Mr. Adler:

Please find enclosed two copies of the Groundwater Treatment System, Quarterly Monitoring Report, Second Quarter 2001 for the American Chemical Service NPL Site in Griffith, Indiana. This report is submitted in accordance with the PGCS Performance Standard Verification Plan, April 1997.

We are also sending three copies of this report to IDEM and one copy of this report to Black & Veatch. If you need additional copies of this report please let me know and we can forward them to you, or whomever you specify.

Sincerely,

MONTGOMERY WATSON HARZA

Peter J. Vagt, Ph.D., CPG  
Project Manager

cc: Sean Grady, IDEM (3 copies)  
Larry Campbell, B&V (1 copy)  
ACS Technical Committee (1 copy to each member)

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**GROUNDWATER TREATMENT SYSTEM  
QUARTERLY MONITORING REPORT  
SECOND QUARTER 2001**

**AMERICAN CHEMICAL SERVICE NPL SITE  
GRIFFITH, INDIANA**

**MWH File No. 2090601**

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**Prepared For:**

**American Chemical Service NPL Site RD/RA Executive Committee  
Griffith, Indiana**

**Prepared By:**

**MWH  
27755 Diehl Road, Suite 300  
Warrenville, Illinois 60555**

**December 2001**



**MWH**

MONTGOMERY WATSON HARZA

**GROUNDWATER TREATMENT SYSTEM  
QUARTERLY MONITORING REPORT  
SECOND QUARTER 2001**

**AMERICAN CHEMICAL SERVICE NPL SITE  
GRIFFITH, INDIANA**

**Prepared For:**

**American Chemical Service NPL Site RD/RA Executive Committee  
Griffith, Indiana**

Prepared by:

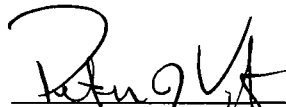


Travis Klingforth, EIT  
Project Engineer

12/3 /01

Date

Approved by:



Peter Vagt, Ph.D., CPG  
Project Manager

December 3, 2001

Date

## TABLE OF CONTENTS

<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
1.0 INTRODUCTION.....	1
2.0 COMPLIANCE MONITORING.....	2
2.1 Introduction.....	2
2.2 Sampling and Analyses.....	2
2.3 Analytical Results.....	3
3.0 TREATMENT SYSTEM PROCESS MODIFICATIONS.....	5
4.0 PGCS AND BWES GAUGING ACTIVITIES .....	6

## TABLES

Table 2.1	Groundwater Treatment System Effluent Discharge Limits
Table 2.2	Summary of Effluent Analytical Results - Groundwater Treatment System

## FIGURES

Figure 4.1	Water Table Elevations Near the PGCS – June 2001
Figure 4.2	Water Level Trends Inside Barrier Wall
Figure 4.3	Water Table Elevations Across the Barrier Wall – June 2001

## APPENDICES

Appendix A	Effluent Analytical Data – Compuchem Laboratories <ul style="list-style-type: none"><li>• April 9, 2001 Compliance Sample – Laboratory Results</li><li>• May 31, 2001 Compliance Sample – Laboratory Results</li><li>• June 20, 2001 Compliance Sample – Laboratory Results</li><li>• June 26, 2001 Compliance Sample – Laboratory Results</li></ul>
Appendix B	Effluent Analytical Data – Severin Trent Laboratories (STL) <ul style="list-style-type: none"><li>• April 9, 2001 Compliance Sample – Laboratory Results</li></ul>
Appendix C	Analytical Data Validated Under New QAPP (March 2001 Draft) <ul style="list-style-type: none"><li>• April 9, 2001 Compliance Sample – Laboratory Results</li></ul> Compuchem Laboratories

## 1.0 INTRODUCTION

MWH, on behalf of the ACS RD/RA Executive Committee, started up the on-site groundwater treatment system at the American Chemical Service NPL Site (ACS Site) in Griffith, Indiana on March 13, 1997. The groundwater treatment plant (GWTP) system was designed to treat groundwater from the Perimeter Groundwater Containment System (PGCS) and certain volumes of water from the Barrier Wall Extraction System (BWES). The original treatment consisted of a phase-separator for oil and free product removal, equalization tanks, a UV-oxidation unit for destruction of organic constituents, and an air stripper to remove methylene chloride and other organics. The treatment also included a chemical precipitation and clarification unit to remove metals, a sand filter to remove suspended solids, and activated carbon vessels for final polishing of the treated groundwater.

In 2001 an activated sludge treatment process was added to the process to reduce the volatile and semivolatile organic compounds (VOCs and SVOCs) in the collected groundwater. The activated sludge treatment process also reduces the amount of activated carbon required in the treatment process. An aerated equalization tank was also added to the GWTP in 2001 to remove VOCs from the collected groundwater, oxidize metals to increase metals removal efficiency in the chemical precipitation unit, and equalize groundwater flow through the GWTP. The activated sludge system and aeration tank have been fully integrated into the process, along with the other upgrade components. Startup and optimization of the catalytic oxidizer/scrubber air treatment unit was conducted during the first quarter of 2001.

The treated effluent from the treatment system is discharged to the nearby wetlands, west of the treatment system, in accordance with Agency approvals. Beginning in June 2001, the discharge was temporarily redirected south of the ACS railroad tracks to aid in the dewatering of the wetlands for the PCB-impacted soil excavation. This Groundwater Treatment System report summarizes effluent analytical data and water level gauging data collected from April 2001 through June 2001.

## 2.0 COMPLIANCE MONITORING

### 2.1 INTRODUCTION

Effluent samples were collected from the treatment system to demonstrate compliance with the discharge limits (Table 2.1) established by Indiana Department of Environmental Management (IDEM) and United States Environmental Protection Agency (U.S. EPA). The approved Performance Standard Verification Plan (PSVP) requires quarterly effluent sampling for biological oxygen demand (BOD), total suspended solids (TSS), SVOCs, metals, and polychlorinated biphenyls (PCBs) in the system, and monthly effluent sampling for VOCs, as shown in the table below. To be conservative, the effluent sampling is being conducted on a monthly basis for all analytes. The samples will continue to be collected on a monthly basis until the treatment system is operating in a relatively steady state after completion and optimization of the groundwater treatment plant upgrades.

Sampling and analyses were performed in accordance with the Agency-approved PSVP Quality Assurance Project Plan (QAPP) prepared by MWH (formerly Montgomery Watson) for the ACS RD/RA Executive Committee in April 1997. Quality control measures were also instituted in accordance with the PSVP and QAPP. The following paragraphs present details on sampling and analyses, and also summarize the analytical data for the treatment system effluent.

**Sampling Frequency Schedule – Groundwater Treatment System**

Analytes	Cumulative Time From Startup*	Frequency
Flowrate and pH	–	Continuous
BOD, TSS, SVOCs and Metals	181 days onward	Once per quarter
VOCs	31 days onward	Once per month
PCBs	181 days onward	Once per quarter
PCBs in Sediment (one location)	–	Once per year

\*Note: System startup occurred March 13, 1997

### 2.2 SAMPLING AND ANALYSES

Effluent samples were collected each month during the second quarter 2001. Samples were collected on the following dates for this reporting period:

- April 9, 2001
- May 31, 2001
- June 20, 2001
- June 26, 2001

The above effluent samples were collected directly from a sample tap on the effluent line of the treatment system except for the June 26, 2001 sample. Beginning in June 2001, discharge from the GWTP was temporarily re-directed from the wetlands to the drainage channel located south of the ACS railroad tracks. This helped to lower water levels in the wetlands in preparation for the PCB-impacted soil wetland excavation that began in July 2001. A special compliance sample was collected on June 26, 2001 from the GWTP effluent being discharged south of the ACS railroad tracks.

The samples were placed in contaminant-free containers, as specified in the U.S. EPA Specifications and Guidance for Obtaining Contaminant-Free Sample Containers (U.S. EPA, 1992). Appropriate sample containers and preservatives, as specified in the QAPP, were used to collect and preserve the samples. Following sample collection, the sample containers were refrigerated at or below 4° C in coolers. Chain-of-Custody forms were prepared to track the transfer of samples from the treatment system to the laboratories. In accordance with the approved QAPP, the effluent water samples were analyzed by the following analytical methods for the following parameters:

<u>Parameter</u>	<u>Analytical Method</u>
VOCs	SW-846 8260B
SVOCs	SW-846 8270C
Pentachlorophenol	SW-846 8270C and SIM
Pesticides/PCBs	EPA 608/SW-846 8081/8082
Metals (Excluding Mercury)	SW-846 6010
General Water Quality Parameters (TSS and BOD-5)	EPA 160.2 and 405.1
Mercury	SW-846 7470
pH	EPA 150.1

## 2.3 ANALYTICAL RESULTS

The effluent monitoring data, summarized in Table 2.2, verifies that the system effluent was consistently compliant with the discharge limits presented in Table 2.1. No exceedences were reported for the Second Quarter 2001 sampling events. The analytical data sheets for all four compliance samples are provided in Appendix A.

Compuchem Laboratory of Cary, North Carolina analyzed the data. Laboratory Data Consultants (LDC) of Carlsbad, California performed third party data validation in accordance with the U.S. EPA National Functional Guidelines for Organic/Inorganic Data Review. Validation qualifiers are listed in Table 2.2 and are written in the margin of the analytical data sheets provided in Appendix A.

The "non-detect" results for the April 9, June 20, and June 26, 2001 samples for the analytes acetone and 2-butanone have been flagged "R" by LDC for "rejected" due to low relative response factor values. Because this same issue has arisen before in previous

monthly compliance samples, MWH split the April 9, 2001 effluent sample with the project laboratory, Compuchem, and a new laboratory, Severn Trent Laboratories (STL) in order to compare the results. STL is the back-up laboratory listed in the Draft Final QAPP submitted by MWH in March 2001. The purpose of splitting the samples was to determine if the QC procedures used by Compuchem were deficient and if another laboratory would be able to provide better results.

STL only analyzed the selected VOCs that had received "R" flags in previous months. The STL results are summarized in Table 2.2 and included in Appendix B. The analytical results from STL matched those from Compuchem. At the direction of MWH, LDC performed third party data validation on both samples in accordance with U.S. EPA National Functional Guidelines (NFG) for Organic Data Review. LDC flagged the 2-butanone result from STL with an "R" for "rejected" due to low relative response factor values, though the acetone result did not receive any flags. Two different labs received rejected data, further demonstrating the difficulty of this problem. This is a common problem for acetone, 2-butanone, and other ketones.

As reported in the First Quarter 2001 Groundwater Treatment System Quarterly Monitoring Report, a new QAPP (March 2001 draft) has been prepared. It was submitted to the Agencies on March 16, 2001 and contains updated protocols that should address this issue. To confirm that the QC procedures detailed in the new QAPP would indeed yield acceptable data, MWH directed LDC to re-validate the April 9, 2001 Compuchem compliance data according to the new QAPP (March 2001). Under the new QAPP, no data was flagged with an "R," confirming that this issue should be resolved upon approval of the new QAPP. Data summary sheets marked with LDC's re-validation marks are included in Appendix C.

LDC validated the April 9, 2001 sample under both the NFGs and the new QAPP. They validated the May 31, 2001 sample under the new QAPP, and no data received an "R" flag. They validated the June 20 and June 26, 2001 samples under the NFGs. LDC will continue to validate GWTP effluent data under the NFGs until the new QAPP is approved.

In past years the annual sediment sample analyzed for PCBs has been collected during the first quarter. However, the unusual amount of precipitation during the first and second quarters of this year prevented a sediment sample from being taken during this period. The standing water in the wetland area did not allow an accurate sample to be collected from the GWTP outfall. The sample will be collected later in the year when water levels have dropped.



### 3.0 TREATMENT SYSTEM PROCESS MODIFICATIONS

During the second quarter of 2001, the GWTP continued to treat groundwater collected by the BWES and PGCS. The work of upgrading the GWTP began in August 1999 and was substantially completed in December 2000. During this monitoring period, no modifications were made to the GWTP.

#### 4.0 PGCS AND BWES GAUGING ACTIVITIES

The PGCS trench groundwater extraction wells were operated in "auto" mode continuously throughout the months of April, May, and June 2001. In "auto" mode, each of the PGCS extraction wells are set to turn on or off automatically based on water levels within the Aeration Equalization Tank (T-102). This mode is used to control the flowrate through the treatment system. The GWTP also received influent from the firepond in the ACS On-Site Area. MWH pumped from the firepond during the Second Quarter 2001 to dewater a localized area in order to facilitate the drum removal activities. The GWTP also received influent from the BWES during April, May, and June 2001. The GWTP received less BWES influent during May 2001, the period when the drum activities were at their peak and most of the barrier wall influent was coming from the firepond.

In accordance with the PSVP for the Site, a discussion on the effect of the PGCS and BWES on the water table near the Site is presented in each quarterly monitoring report. This section presents a discussion on the groundwater elevation findings during the months of April through June 2001. Groundwater elevation measurements were collected throughout the Site on June 18, 2001 as part of the quarterly groundwater monitoring program. The groundwater elevations and resulting contours outside the barrier wall are shown on Figure 4.1. However, to keep track of the groundwater table inside the barrier wall, levels were collected from the BWES piezometers (P-3, P-32, P-49 and P-96) on a regular basis, as shown in the table below. The levels from these four piezometers are shown in the table below. The water elevations inside the barrier wall are depicted graphically on Figure 4.2.

Water Table Elevation				
Date	P-3	P-32	P-49	P-96
April 6, 2001	634.57	635.52	633.18	626.19
April 20, 2001	634.37	635.52	633.58	625.89
April 27, 2001	634.37	635.32	632.98	628.49
May 4, 2001	634.17	634.52	633.38	629.69
June 1, 2001	634.27	634.72	633.98	625.99
June 8, 2001	NA	635.52	634.48	625.39
June 22, 2001	NA	635.22	632.58	625.59

NA = Not sampled. Piezometer P-3 was removed during the construction of the Off-Site Area Interim Cover

The barrier wall was constructed to isolate a contaminated zone under the Site, and the BWES was installed to collect the impacted water within the barrier wall. A series of 16 piezometers were installed in eight pairs, one piezometer of each pair on either side of the barrier wall at each of the BWES trench locations. This allows measurement and tracking of water levels in order to ensure that the barrier wall is serving its designed function.

During the installation of the Off-Site Area Interim Cover in June, July, and August 2001, four of the five piezometer pairs in the Off-Site Area were removed: P97 and P98, P99 and P100, P101 and P102, and P103 and P104. P95 and P96 were left in place. Additional piezometers will be added in the Off-Site Area to allow for continued monitoring of water levels once the interim cover is complete.

Groundwater elevations inside and outside the barrier wall were monitored on June 18, 2001. Figure 4.3 illustrates these groundwater elevations. Fluctuations in the gradient across the barrier wall occur due to seasonal groundwater conditions, pumping rates from the BWES, and infiltration into the Site groundwater. However, the groundwater elevations measured in the piezometers indicated that the elevations inside the barrier wall were 1.01 feet to 3.08 feet higher than the elevations outside the barrier wall. The one exception was at piezometers P95 and P96, where the water level was 6.96 feet higher outside the wall due to local dewatering at extraction well EW-11. This data demonstrates that the barrier wall is successfully performing the intended function of isolating and containing the groundwater from the known source areas of the Site inside the barrier wall. If the wall were not functioning properly, the water levels inside and outside the wall would be equal or nearly equal. Water levels from the piezometers June 18, 2001 are presented below:

Piezometer	Location <sup>(1)</sup>	Water Level	Difference <sup>(2)</sup>
P93 <sup>3</sup>	Outside	NM	NA
P49 <sup>3</sup>	Inside	633.99	
P95	Outside	631.80	-6.96 <sup>5</sup>
P96	Inside	624.84	
P97	Outside	632.05	2.29
P98	Inside	634.34	
P99	Outside	632.17	3.08
P100	Inside	635.25	
P101	Outside	633.55	NA
P102 <sup>4</sup>	Inside	NM	
P103	Outside	633.43	1.01
P104	Inside	634.44	
P105	Outside	634.13	1.32
P106	Inside	635.45	
P107	Outside	633.01	2.10
P108	Inside	635.11	

Notes:

1. Location indicates inside or outside the barrier wall.
  2. A positive value indicates that the water level is higher within the barrier wall. A negative value would indicate that the water level is lower within the barrier wall.
  3. Piezometer P-94 has been destroyed. Therefore the groundwater level from piezometer P-49 was used to calculate the hydraulic gradient. Piezometer P-93 has also been destroyed.
  4. Piezometer P-102 has been destroyed.
  5. At this location, the water level is lower inside the barrier wall due to local dewatering from extraction well EW-11.
- NA Value could not be calculated from single measurement.  
 NM Well not measured.

In general, water levels inside the barrier wall are a few feet higher than the water levels outside the barrier wall. The single exception is near piezometers P-95 and P-96, as mentioned above, where extraction well EW-11 has been used to locally dewater the area inside of the barrier wall. It is not the intent to continuously operate with the higher groundwater levels inside the barrier wall. The groundwater levels within the barrier wall during this monitoring period were balanced to maintain a safe level that would not overflow the barrier wall. At the same time, these groundwater levels minimize the amount of groundwater within the barrier wall that requires collection and treatment in the Groundwater Treatment System, thus avoiding excessive granular activated carbon (GAC) usage. Upon optimization of the groundwater treatment plant and BWES upgrades, the groundwater pumping rate of the BWES will be increased to lower the water table inside the barrier wall for operation of the in-situ soil vapor extraction systems to be installed in accordance with the approved Final Remedy.

Beside the eight pairs of piezometers installed specifically to monitor water level differences across the barrier wall, there are several other previously existing monitoring well and piezometers in the vicinity of the barrier wall. These are shown on Figure 4.3.

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**Table 2.1**  
**Groundwater Treatment System Effluent Discharge Limits**  
**American Chemical Service NPL Site**  
**Griffith, Indiana**

Groundwater Quality Parameter	Effluent Standard (Limit)
<b><i>General Water Quality Parameters</i></b>	
PH	6 - 9 S.U.
BOD-5	30 mg/L
TSS	30 mg/L
<b><i>Inorganics</i></b>	
Arsenic	50 µg/L
Beryllium	NE
Cadmium	4.1 µg/L
Manganese	NE
Mercury	0.02 µg/L (w/DL = 0.64)
Selenium	8.2 µg/L
Thallium	NE
Zinc	411 µg/L
<b><i>Volatile Organics</i></b>	
Acetone	6,800 µg/L
Benzene	5 µg/L
2-Butanone	210 µg/L
Chloromethane	NE
1,4 – Dichlorobenzene	NE
1,1 – Dichloroethane	NE
1,2 – Dichloroethene – cis	70 µg/L
Ethylbenzene	34 µg/L
Methylene chloride	5 µg/L
Tetrachloroethene	5 µg/L
Trichloroethene	5 µg/L
Vinyl chloride	2 µg/L
4 – Methyl - 2 – pentanone	15 µg/L
<b><i>Semi-Volatile Organics</i></b>	
bis(2 – Chloroethyl) ether	9.6 µg/L
bis(2 – Ethylhexyl) phthalate	6 µg/L
Isophorone	50 µg/L
4 – Methylphenol	34 µg/L
Pentachlorophenol	1 µg/L
<b><i>PCBs</i></b>	
PCBs	0.00056 µg/L (w/DL = 0.1 to 0.9)

Notes:

NE = No effluent limit established.

DL = Detection limit

**Table 2.2**  
**Summary of Effluent Analytical Results - Second Quarter 2001**  
**Groundwater Treatment System**  
**American Chemical Service NPL Site**  
**Griffith, Indiana**

Event Date Laboratory	Month 47 4/9/01 (split) Compuchem	Month 47 4/9/01 (split) STL	Month 48 5/31/01 <sup>q</sup> Compuchem	Month 49 6/20/01 Compuchem	Month 49 6/26/01 <sup>#</sup> Compuchem	Effluent Limits	Lab Reporting
pH	7.54	na	8.16 /J	7.99	7.53 /J	6-9	none
TSS	ND	na	2.4	1.73	ND	30	10
BOD	ND	na	ND	ND	ND	30	2
Arsenic	ND	na	ND	ND	ND	50	3.4
Beryllium	ND	na	ND	ND	ND	NE	0.2
Cadmium	ND	na	ND	ND	ND	4.1	0.3
Manganese	237	na	52.5	42.0	16.6	NE	10
Mercury	ND	na	ND	ND	ND	0.02 (w/DL = 0.64)	0.1
Selenium	ND	na	ND	ND	ND	8.2	4.3
Thallium	ND	na	ND	ND	ND	NE	5.7
Zinc	4.7 B/	na	ND	4.0 B/	ND	411	1.2
Benzene	ND	na	ND	ND	ND	5	0.5
Acetone	ND /R	ND	3 /J	ND /R	ND /R	6,800	3
2-Butanone	ND /R	ND /R	ND	ND /R	ND /R	210	3
Chloromethane	ND	na	0.2 J	ND	ND /UJ	NE	0.5
1,4-Dichlorobenzene	ND	na	ND	ND	ND	NE	0.5
1,1-Dichloroethane	ND	na	ND /UJ	ND	ND	NE	0.5
cis-1,2-Dichloroethene	ND	na	ND	ND	ND	70	0.5
Ethylbenzene	ND	na	ND	ND	ND	34	0.5
Methylene chloride	0.6	na	ND	ND	0.2 JB/0.5 U	5	0.6
Tetrachloroethene	ND	na	ND	ND	ND	5	0.5
Trichloroethene	ND	na	ND	ND	ND	5	0.5
Vinyl chloride	ND	na	ND	ND	ND	2	0.5
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	15	3
bis (2-Chloroethyl) ether	ND	na	ND	ND	ND	9.6	9.6
bis(2-Ethylhexyl) - phthalate	ND	na	ND	ND	ND	6	6
4 - Methylphenol	ND	na	ND	ND	ND	34	10
Isophorone	ND	na	ND	ND	ND	50	10
Pentachlorophenol	0.11 J/J	na	ND	ND	ND	1	1
PCB/Aroclor-1016	ND	na	ND /UJ	ND	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1221	ND	na	ND /UJ	ND	ND	0.00056 (w/DL = 0.1 to 0.9)	0.92*
PCB/Aroclor-1232	ND	na	ND /UJ	ND	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1242	ND	na	ND	ND	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1248	ND	na	ND	ND	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1254	ND	na	ND	ND	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1260	ND	na	ND	ND	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5

Notes:

Shaded cells indicate discharge exceedances

pH data is expressed in S.U.

TSS and BOD5 data is expressed in mg/L

Metals, VOC, SVOC and PCB data is expressed in ug/L

ND = Not detected

NE = No effluent limit established.

NA = Sample not analyzed for this compound

\* = Approved EPA 608/SW-846 8081/8082 method is incapable of achieving effluent limit.

# = Sample was collected from discharge point south of railroad tracks

q = Sample was validated according to new draft Quality Assurance Project Plan (QAPP), dated March 2001.

Unless noted, samples were validated under Agency-approved PSVP QAPP, dated April 1997.

Suffix Definitions:

/ = Data qualifier added by laboratory

/\_ = Data qualifier added by data validator

B = Compound is also detected in the blank

E = Compound exceeds the upper level of calibration range of instrument

J = Result is detected below the reporting limit and is an estimated concentration

Q = Sample was analyzed out of the recommended holding time

R = Quality control indicates the data is not usable

JB = Analyte is detected in the compliance sample below the reporting limit and is an estimated concentration and the compound is also detected in the method blank resulting in a potential high bias

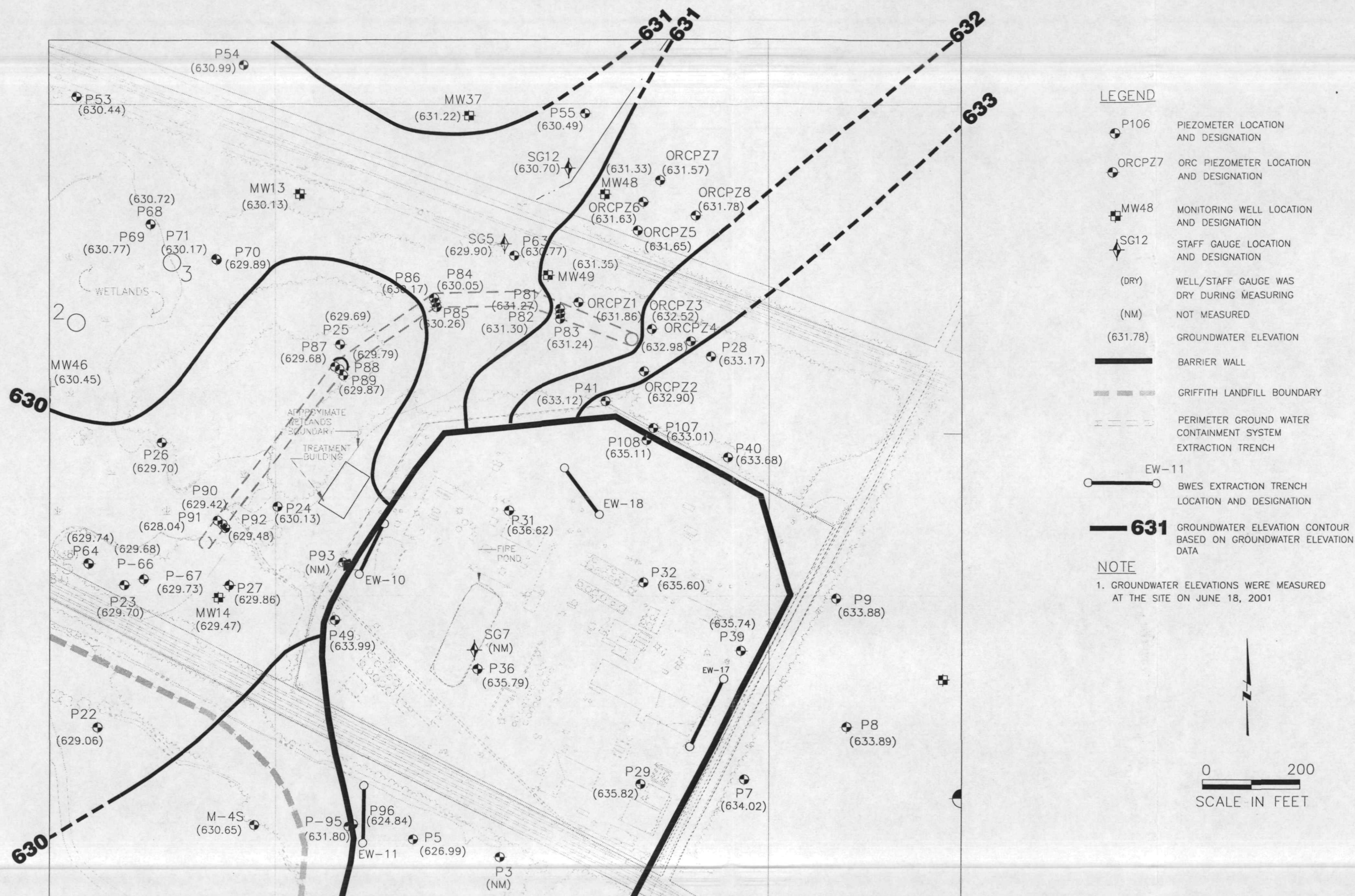
UB = Analyte is not detected at or above the indicated concentration due to blank contamination

UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value





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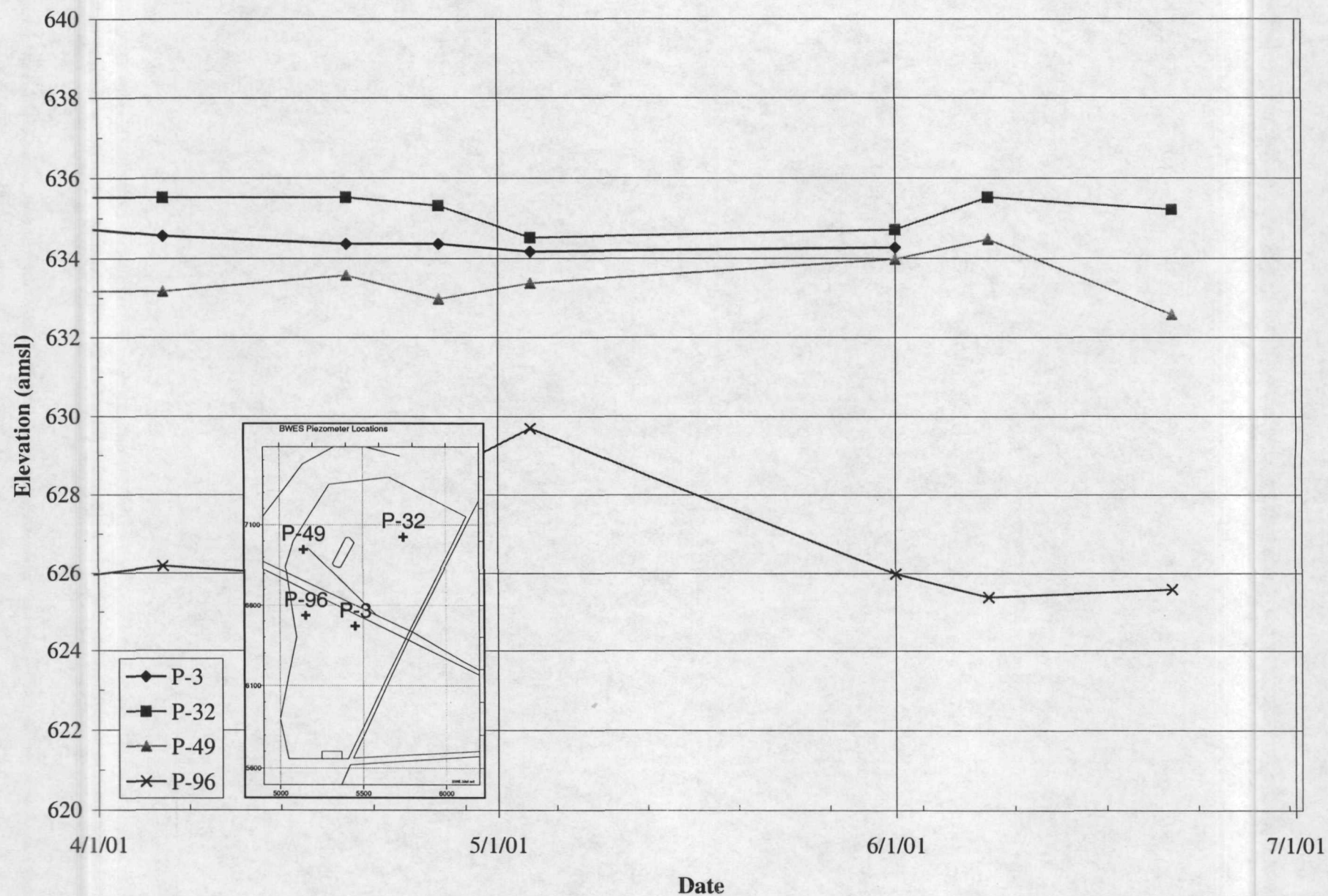
**MWH**  
MONTGOMERY WATSON HARZA

AMERICAN CHEMICAL SERVICES, INC.  
GRIFFITH, INDIANA

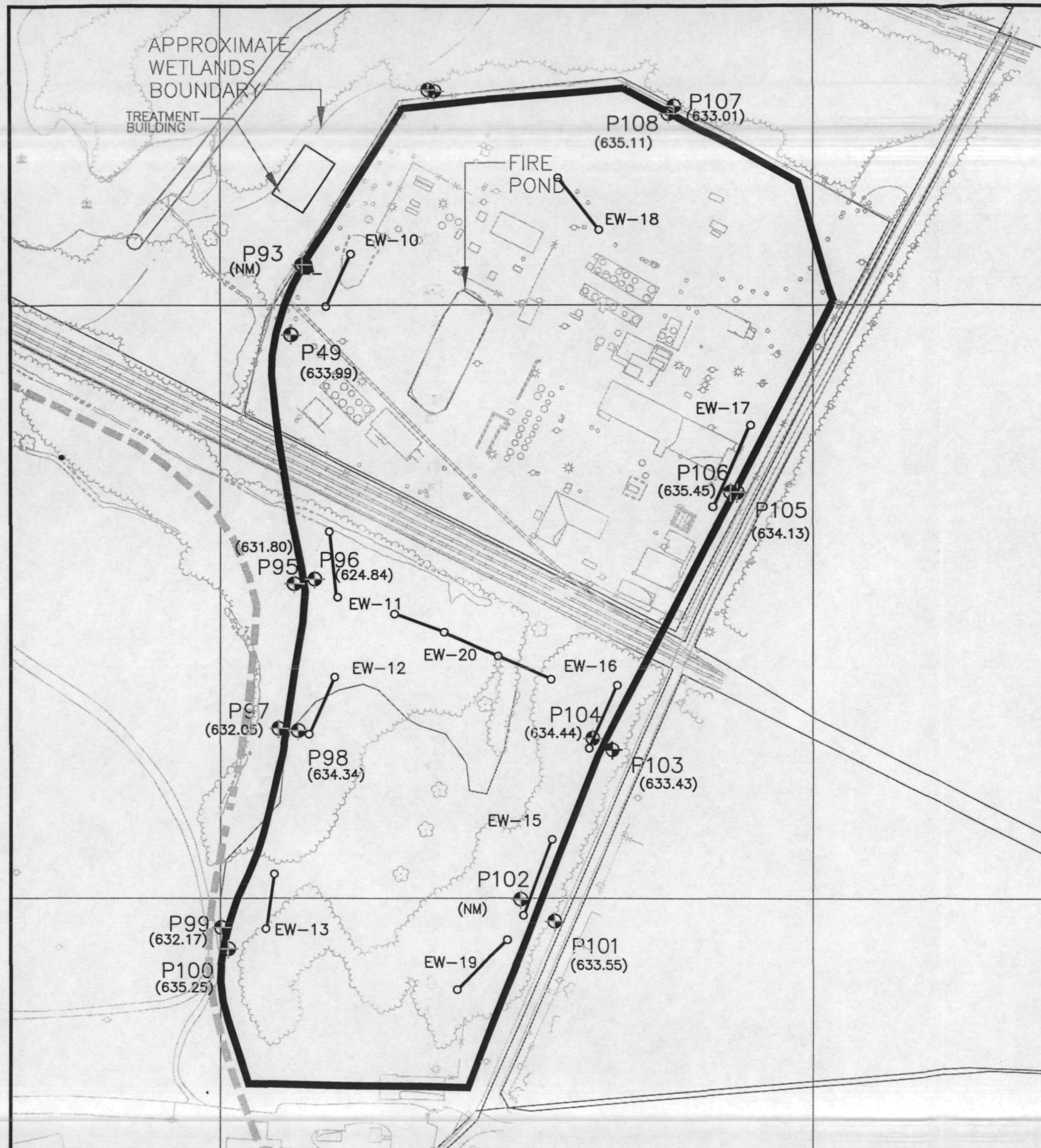
WATER TABLE ELEVATIONS  
NEAR THE PGCS  
JUNE 2001

FIGURE

4.1





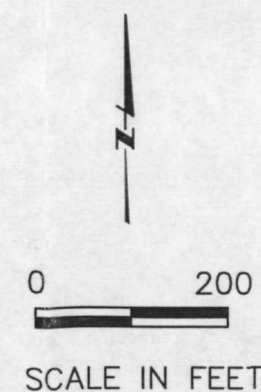


#### LEGEND

- P106 PIEZOMETER LOCATION AND DESIGNATION
- (633.01) GROUNDWATER ELEVATION
- BARRIER WALL
- GRIFFITH LANDFILL BOUNDARY
- PERIMETER GROUND WATER CONTAINMENT SYSTEM EXTRACTION TRENCH
- EW-11 BWES EXTRACTION TRENCH LOCATION AND DESIGNATION
- (NM) NOT MEASURED

#### NOTES

1. GROUNDWATER ELEVATIONS WERE MEASURED THE SITE ON JUNE 18, 2001



SCALE  
1"=200'



AMERICAN CHEMICAL SERVICES, INC.  
GRIFFITH, INDIANA

WATER TABLE ELEVATIONS  
ACROSS THE BARRIER WALL  
JUNE 2001

FIGURE  
4.3



**APPENDIX A**  
**EFFLUENT ANALYTICAL DATA**  
**Compuchem Laboratories**

**April 9, 2001 Compliance Sample  
Laboratory Results**

**Compuchem Laboratories**

PH IN WATER ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (Standard pH units)	REPORTING LIMIT (Standard pH units)
1.	EFFLUENT	QB1024-1	7.54	N/A

BRL = BELOW REPORTING LIMIT

Reviewed by/ID#: R. J. Jones / 2405 Date: 4/19/01

FS/01

# TOTAL SUSPENDED SOLIDS ANALYSIS

## SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (mg/L)	REPORTING LIMIT (mg/L)
1.	EFFLUENT	QB1024-1	BRL	4

BRL = BELOW REPORTING LIMIT

Reviewed by/ID#: *[Signature]* 12405 Date: 4/19/01

*4/5/01*



# CHEMICAL & ENVIRONMENTAL TECHNOLOGY, INC.

## ENVIRONMENTAL ANALYTICAL SERVICES

### FINAL REPORT OF ANALYSES

TEST AMERICA  
Attn: CAROL YANDELL  
4004 BARRETT DRIVE  
SUITE 105  
RALEIGH, NC 27609-

REPORT DATE: 04/16/01

ACS-89

SAMPLE NUMBER- 183283    SAMPLE ID- TEST AMERICA EFFLUENT  
DATE SAMPLED- 04/09/01  
DATE RECEIVED- 04/10/01    SAMPLER- NOT SPECIFIED  
TIME RECEIVED- 1500    DELIVERED BY- SAM HARPER

SAMPLE MATRIX- WW  
TIME SAMPLED- 1400  
RECEIVED BY- SMC

Page 1 of 1

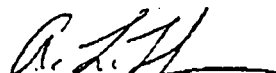
PROJECT NAME : ACS-89

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT UNITS	PQL
BIOCHEMICAL OXYGEN DEMAND	EPA 405.1	04/11/01	LEB	<2 mg/L	2

PQL = Practical Quantitation Limit  
Results followed by the letter J are estimated concentrations.

NC DENR CERTIFICATIONS: DWQ - 96; PUBLIC WATER SUPPLY - 37724

LABORATORY DIRECTOR



9/5/8/01

## SW-846 METALS

1

## INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: \_\_\_\_\_

Lab Code: LIBERTY

Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SDG No.: QB1024Matrix (soil/water): WATERLab Sample ID: QB1024-1Level (low/med): LOWDate Received: 04/10/01% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	39.1	U		P
7440-36-0	Antimony	1.9	B		P
7440-38-2	Arsenic	2.1	U		P
7440-39-3	Barium	57.7			P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	101000			P
7440-47-3	Chromium	0.70	U		P
7440-48-4	Cobalt	1.7	B		P
7440-50-8	Copper	2.1	B		P
7439-89-6	Iron	216			P
7439-92-1	Lead	1.1	B		P
7439-95-4	Magnesium	27600			P
7439-96-5	Manganese	237			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	12.6			P
7440-09-7	Potassium	8790			P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	47200			P
7440-28-0	Thallium	3.5	U		P
7440-62-2	Vanadium	0.54	B		P
7440-66-6	Zinc	4.7	B		P

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: QB1024-1A56

Level: (low/med) LOW

Date Received: 04/10/01

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 04/23/01

GC Column: J&amp;B DB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

74-87-3	-----Chloromethane	0.5	U	
75-01-4	-----Vinyl Chloride	0.5	U	
74-83-9	-----Bromomethane	0.5	U	
75-00-3	-----Chloroethane	0.5	U	
75-35-4	-----1,1-Dichloroethene	0.5	U	
75-15-0	-----Carbon disulfide	0.5	U	
67-64-1	-----Acetone	3	U	R
75-09-2	-----Methylene Chloride	0.6	U	
156-60-5	-----trans-1,2-Dichloroethene	0.5	U	
75-34-3	-----1,1-Dichloroethane	0.5	U	
156-59-2	-----cis-1,2-Dichloroethene	0.5	U	
78-93-3	-----2-butanone	3	U	R
67-66-3	-----Chloroform	0.5	U	
71-55-6	-----1,1,1-Trichloroethane	0.5	U	
56-23-5	-----Carbon Tetrachloride	0.5	U	W
71-43-2	-----Benzene	0.5	U	
107-06-2	-----1,2-Dichloroethane	0.5	U	W
79-01-6	-----Trichloroethene	0.5	U	
78-87-5	-----1,2-Dichloropropane	0.5	U	
75-27-4	-----Bromodichloromethane	0.5	U	
10061-01-5	-----cis-1,3-Dichloropropene	0.5	U	
108-10-1	-----4-Methyl-2-pentanone	3	U	
108-88-3	-----Toluene	0.5	U	
10061-02-6	-----trans-1,3-Dichloropropene	0.5	U	W
79-00-5	-----1,1,2-Trichloroethane	0.5	U	W
127-18-4	-----Tetrachloroethene	0.5	U	
591-78-6	-----2-hexanone	3	U	R
124-48-1	-----Dibromochloromethane	0.5	U	W
108-90-7	-----Chlorobenzene	0.5	U	
100-41-4	-----Ethylbenzene	0.5	U	
108-38-3	-----m,p-Xylene	1	U	
95-47-6	-----o-Xylene	0.5	U	
100-42-5	-----Styrene	0.5	U	

FORM I VOA

9/8/01

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: QB1024-1A56

Level: (low/med) LOW

Date Received: 04/10/01

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 04/23/01

GC Column: J&B DB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

75-25-2-----	Bromoform	0.5	U	W
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U	
106-46-7-----	1,4-Dichlorobenzene	0.5	U	
540-59-0-----	1,2-Dichloroethene (total)	0.5	U	
1330-20-7-----	Xylene (total)	0.5	U	

FORM I VOA

4/28/01

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 1100 (g/mL) ML

Lab File ID: QB1024-1B60

Level: (low/med) LOW

Date Received: 04/10/01

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 04/14/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/17/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

111-44-4-----	Bis(2-chloroethyl) ether	8.7	U
106-44-5-----	4-Methylphenol	9.1	U
78-59-1-----	Isophorone	9.1	U
117-81-7-----	bis(2-ethylhexyl) Phthalate	5.5	U

5/8/01

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 1100 (g/mL) ML

Lab File ID: QB1024-1B70

Level: (low/med) LOW

Date Received: 04/10/01

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 04/14/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/20/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

87-86-5-----	Pentachlorophenol	0.11	J
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5/8/01

1D  
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: 3082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 1080 (g/mL) ML

Lab File ID: \_\_\_\_\_

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 04/10/01

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 04/11/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 04/12/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

12674-11-2-----Aroclor-1016	0.46	U
11104-28-2-----Aroclor-1221	0.92	U
11141-16-5-----Aroclor-1232	0.46	U
53469-21-9-----Aroclor-1242	0.46	U
12672-29-6-----Aroclor-1248	0.46	U
11097-69-1-----Aroclor-1254	0.46	U
11096-82-5-----Aroclor-1260	0.46	U

*9/5/01*

**May 31, 2001 Compliance Sample  
Laboratory Results**

**Compuchem Laboratories**



SW-846

1-CC

## CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: CompuChem

Contract: \_\_\_\_\_

Lab Code: LIBRTY

Case No.: \_\_\_\_\_

NRAS No.: \_\_\_\_\_

OG No.: QD1024Matrix (soil/water): WATERLab Sample ID: QD1024-1Date Received: 6/1/01% Solids: 0.00Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
TSS	2.4				6/4/01
pH	8.16				6/4/01

J

7/13/01

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## ENVIRONMENTAL ANALYTICAL SERVICES

7/13/01

## SW-846 METALS

1

## INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: \_\_\_\_\_

Lab Code: LIBRTY

Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SDG No.: QD1024Matrix (soil/water): WATERLab Sample ID: QD1024-1Level (low/med): LOWDate Received: 06/01/01Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	92.4	B		P
7440-36-0	Antimony	3.6	B		P
7440-38-2	Arsenic	2.1	U		P
7440-39-3	Barium	72.4			P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	120000			P
7440-47-3	Chromium	1.2	B		P
7440-48-4	Cobalt	1.7	B		P
7440-50-8	Copper	0.90	U		P
7439-89-6	Iron	15.0	B		P
7439-92-1	Lead	2.7	B		P
7439-95-4	Magnesium	29000			P
7439-96-5	Manganese	52.5			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	5.5			P
7440-09-7	Potassium	10000			P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	61100			P
7440-28-0	Thallium	3.5	U		P
7440-62-2	Vanadium	9.1	B		P
7440-66-6	Zinc	1.0	U		P

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: YELLOWClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBERTY

Case No.:

SAS No.:

SDG No.: QD1024

Matrix: (soil/water) WATER

Lab Sample ID: QD1024-1

Sample wt/vol: 25 g/ml ML

Lab File ID: QD1024-1A71

Level: (low/med) LOW

Date Received: 06/01/01

% Moisture: not dec.

Date Analyzed: 06/12/01

GC Column: SPL-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

74-87-3	Chloromethane	0.2	J	
75-01-4	Vinyl Chloride	0.5	U	
74-83-9	Bromomethane	0.5	U	
75-00-3	Chloroethane	0.5	U	UJ
75-35-4	1,1-Dichloroethene	0.5	U	
75-15-0	Carbon disulfide	0.5	U	
67-64-1	Acetone	3		J
75-09-2	Methylene Chloride	0.5	U	
156-60-5	trans-1,2-Dichloroethene	0.5	U	
75-34-3	1,1-Dichloroethane	0.5	U	UJ
156-59-2	cis-1,2-Dichloroethene	0.5	U	
78-93-3	2-butanone	3	U	
67-66-3	Chloroform	0.5	U	
71-55-6	1,1,1-Trichloroethane	0.5	U	UJ
56-23-5	Carbon Tetrachloride	0.5	U	UJ
71-43-2	Benzene	0.5	U	UJ
107-06-2	1,2-Dichloroethane	0.5	U	
79-01-6	Trichloroethene	0.5	U	
78-87-5	1,2-Dichloropropane	0.5	U	
75-27-4	Bromodichloromethane	0.5	U	
10061-01-5	cis-1,3-Dichloropropene	0.5	U	
108-10-1	4-Methyl-2-pentanone	3	U	
108-88-3	Toluene	0.5	U	
10061-02-6	trans-1,3-Dichloropropene	0.5	U	
79-00-5	1,1,2-Trichloroethane	0.5	U	
127-18-4	Tetrachloroethene	0.5	U	
591-78-6	2-hexanone	3	U	
124-48-1	Dibromochloromethane	0.5	U	
108-90-7	Chlorobenzene	0.5	U	
100-41-4	Ethylbenzene	0.5	U	
108-38-3	m,p-Xylene	1	U	
95-47-6	o-Xylene	0.5	U	
100-42-5	Styrene	0.5	U	

FORM I VOA

7/13/01

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QD1024

Matrix: (soil/water) WATER

Lab Sample ID: QD1024-1

Sample wt/vol: 25 (g/ml ML

Lab File ID: QD1024-1A71

Level: (low/med) LOW

Date Received: 06/01/01

Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/12/01

GC Column: SPL-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

75-25-2-----	Bromoform	0.5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U
106-46-7-----	1,4-Dichlorobenzene	0.5	U
540-59-0-----	1,2-Dichloroethene (total)	0.5	U
1330-20-7-----	Xylene (total)	0.5	U

FORM 1 VOA

7/13/01

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QD1024

Matrix: soil/water) WATER

Lab Sample ID: QD1024-1

Sample wt/vol: 500 g/mL) ML

Lab File ID: QD1024-1B64

Level: low/med) LOW

Date Received: 06/01/01

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 06/04/01

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 06/04/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

111-44-4-----	Bis(2-chloroethyl)ether	9.6	U
106-44-5-----	4-Methylphenol	10	U
78-59-1-----	Isophorone	10	U
117-81-7-----	bis(2-ethylhexyl) Phthalate	6	U

7/13/01

FORM 1  
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBERTY

Case No.:

SAS No.:

SDG No.: QD1024

Matrix: soil, water, WATER

Lab Sample ID: QD1024-1

Sample wt/vol: 500 g/mL ML

Lab File ID: QD1024-1A60

Level: (low/med) LOW

Date Received: 06/01/01

Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 06/04/01

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 06/06/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GC Cleanup: (Y/N) N pH: \_\_\_\_\_

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
87-86-5-----	Pentachlorophenol	1	U	

FORM 1 SV

7/13/01

GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: 8082

Lab Code: LIBERTY

Case No.:

SAS No.:

SDG No.: QD1024

Matrix: soil/water) WATER

Lab Sample ID: QD1024-1

Sample wt/vol: 500.0 (g/mL) ML

Lab File ID:

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 06/01/01

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 06/04/01

Concentrated Extract Volume: 2500 (uL)

Date Analyzed: 06/04/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

12674-11-2-----Aroclor-1016	0.50	U
11104-28-2-----Aroclor-1221	1.0	U
11141-16-5-----Aroclor-1232	0.50	U
53469-21-9-----Aroclor-1242	0.50	U
12672-29-6-----Aroclor-1248	0.50	U
11097-69-1-----Aroclor-1254	0.50	U
11096-82-5-----Aroclor-1260	0.50	U

us  
↓

7/13/01



**June 20, 2001 Compliance Sample  
Laboratory Results**

**Compuchem Laboratories**

SW-846

1-CC

## CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Name: CompuChem

Contract: \_\_\_\_\_

Code: \_\_\_\_\_

Case No.: \_\_\_\_\_

NRAS No.: \_\_\_\_\_

No.: QF1024Mix (soil/water): WATERLab Sample ID: QF1024-1

Received: \_\_\_\_\_

% Solids: 0.00Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
pH	7.990				6/21/01
TSS	1.73				6/26/01

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## ENVIRONMENTAL ANALYTICAL SERVICES

## FINAL REPORT OF ANALYSES

TEST AMERICA  
Attn: CAROL YANDELL  
4004 BARRETT DRIVE  
SUITE 105  
RALEIGH, NC 27609-

REPORT DATE: 06/29/01

SAMPLE NUMBER- 185745    SAMPLE ID- ACS-89 EFFLUENT  
DATE SAMPLED- 06/20/01  
DATE RECEIVED- 06/21/01    SAMPLER- NOT SPECIFIED  
TIME RECEIVED- 1400    DELIVERED BY- CAROL YANDELL

SAMPLE MATRIX- GW  
TIME SAMPLED- 1400  
RECEIVED BY- CAB

Page 1 of 1

PROJECT NAME : 01-0723

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT UNITS	PQL
BIOCHEMICAL OXYGEN DEMAND	EPA 405.1	06/22/01	LSB	<2 mg/L	2

PQL = Practical Quantitation Limit

Results followed by the letter J are estimated concentrations.

NC DENR CERTIFICATIONS: DWQ - 96; PUBLIC WATER SUPPLY - 37724

LABORATORY DIRECTOR 2  
8/23/01

## SW846 METALS

1

## INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: \_\_\_\_\_

Lab Code: LIBRTY

Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SDG No.: QF1024Matrix (soil/water): WATERLab Sample ID: QF1024-1Level (low/med): LOWDate Received: 06/21/01% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight):

UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	67.4	B		P
7440-36-0	Antimony	1.6	U		P
7440-38-2	Arsenic	2.1	U		P
7440-39-3	Barium	126			P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	186000			P
7440-47-3	Chromium	0.70	U		P
7440-48-4	Cobalt	4.0	B		P
7440-50-8	Copper	4.9	B		P
7439-89-6	Iron	199			P
7439-92-1	Lead	0.90	U		P
7439-95-4	Magnesium	31100			P
7439-96-5	Manganese	42.0			P
7439-97-6	Mercury	0.64	U		CV
7440-02-0	Nickel	33.7			P
7440-09-7	Potassium	10100			P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	50100			P
7440-28-0	Thallium	3.5	U		P
7440-62-2	Vanadium	2.1	B		P
7440-66-6	Zinc	4.0	B		P

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_

6901A

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Method: 68W99071

Lab Code: LIBRTY

Case No.: 29425

SAS No.:

SDG No.: QF1024

Matrix: (soil/water) WATER

Lab Sample ID: QF1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: QF1024-1B56

Level: (low/med) LOW

Date Received: 06/21/01

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/03/01

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

74-87-3	-----Chloromethane	0.5	U	
75-01-4	-----Vinyl Chloride	0.5	U	
74-83-9	-----Bromomethane	0.5	U	
75-00-3	-----Chloroethane	0.5	U	
75-35-4	-----1,1-Dichloroethene	0.5	U	
75-15-0	-----Carbon disulfide	0.5	U	
67-64-1	-----Acetone	3	U	R
75-09-2	-----Methylene Chloride	0.5	U	
156-60-5	-----trans-1,2-Dichloroethene	0.5	U	
75-34-3	-----1,1-Dichloroethane	0.5	U	
156-59-2	-----cis-1,2-Dichloroethene	0.5	U	
78-93-3	-----2-butanone	3	U	R
67-66-3	-----Chloroform	0.5	U	
71-55-6	-----1,1,1-Trichloroethane	0.5	U	
56-23-5	-----Carbon Tetrachloride	0.5	U	
71-43-2	-----Benzene	0.5	U	
107-06-2	-----1,2-Dichloroethane	0.5	U	
79-01-6	-----Trichloroethene	0.5	U	
78-87-5	-----1,2-Dichloropropane	0.5	U	
75-27-4	-----Bromodichloromethane	0.5	U	
10061-01-5	-----cis-1,3-Dichloropropene	0.5	U	
108-10-1	-----4-Methyl-2-pentanone	3	U	
108-88-3	-----Toluene	0.5	U	
10061-02-6	-----trans-1,3-Dichloropropene	0.5	U	
79-00-5	-----1,1,2-Trichloroethane	0.5	U	
127-18-4	-----Tetrachloroethene	0.5	U	
591-78-6	-----2-hexanone	3	U	
124-48-1	-----Dibromochloromethane	0.5	U	
108-90-7	-----Chlorobenzene	0.5	U	
100-41-4	-----Ethylbenzene	0.5	U	
108-38-3	-----m,p-Xylene	1	U	
95-47-6	-----o-Xylene	0.5	U	
100-42-5	-----Styrene	0.5	U	

FORM 1 VOA

8/23/01

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Method: 68W99071

Lab Code: LIBRTY

Case No.: 29425

SAS No.:

SDG No.: QF1024

Matrix: (soil/water) WATER

Lab Sample ID: QF1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: QF1024-1B56

Level: (low/med) LOW

Date Received: 06/21/01

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/03/01

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

75-25-2-----	Bromoform	0.5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U
106-46-7-----	1,4-Dichlorobenzene	0.5	U
540-59-0-----	1,2-Dichloroethene (total)	0.5	U
1330-20-7-----	Xylene (total)	0.5	U

9/8/03/01

FORM I VOA

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QF1024

Matrix: (soil/water) WATER

Lab Sample ID: QF1024-1

Sample wt/vol: 1025 (g/mL) ML

Lab File ID: QF1024-1A64

Level: (low/med) LOW

Date Received: 06/21/01

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 06/22/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 06/25/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

111-44-4-----	Bis(2-chloroethyl) ether_____	9.4	U
106-44-5-----	4-Methylphenol_____	9.8	U
78-59-1-----	Isophorone_____	9.8	U
117-81-7-----	bis(2-ethylhexyl) Phthalate_____	5.9	U

QF1024/01

FORM I SV

8270C

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QF1024

Matrix: (soil/water) WATER

Lab Sample ID: QF1024-1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: QF1024-1JA70

Level: (low/med) LOW

Date Received: 06/21/01

Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 06/22/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/05/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

PC Cleanup: (Y/N) N pH: \_\_\_\_\_

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

87-86-5-----Pentachlorophenol

1

U

FORM I SV

8/23/01



1D  
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: 3082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QF1024

Matrix: (soil/water) WATER

Lab Sample ID: QF1024-1

Sample wt/vol: 1030 (g/mL) ML

Lab File ID: \_\_\_\_\_

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 06/21/01

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 06/22/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 06/25/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

12674-11-2-----Aroclor-1016	0.48	U
11104-28-2-----Aroclor-1221	0.97	U
11141-16-5-----Aroclor-1232	0.48	U
53469-21-9-----Aroclor-1242	0.48	U
12672-29-6-----Aroclor-1248	0.48	U
11097-69-1-----Aroclor-1254	0.48	U
11096-82-5-----Aroclor-1260	0.48	U

8/23/01

**June 26, 2001 Compliance Sample  
Laboratory Results**

**Compuchem Laboratories**

SW-846

1-CC

## CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Name: CompuChem

Contract: \_\_\_\_\_

Code: \_\_\_\_\_

Case No.: \_\_\_\_\_

NRAS No.: \_\_\_\_\_

No.: QH1024Matrix (soil/water): WATERLab Sample ID: QH1024-1Received: 6/27/01% Solids: 0.00Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
TSS	1.000	U			7/2/01
pH	7.53				7/2/01

J

8/23/01

Comments: \_\_\_\_\_

# CHEMICAL & ENVIRONMENTAL TECHNOLOGY, INC.

## ENVIRONMENTAL ANALYTICAL SERVICES

### FINAL REPORT OF ANALYSES

TEST AMERICA  
Attn: CAROL YANDELL  
4004 BARRETT DRIVE  
SUITE 105  
RALEIGH, NC 27609-

REPORT DATE: 07/11/01

BOD

SAMPLE NUMBER- 185898 SAMPLE ID- EFFLUENT  
DATE SAMPLED- 06/26/01  
DATE RECEIVED- 06/27/01 SAMPLER- COMPUCEM  
TIME RECEIVED- 1220 DELIVERED BY- R GATES

SAMPLE MATRIX- WW  
TIME SAMPLED- 1400  
RECEIVED BY- CVB

Page 1 of 1

PROJECT NAME : ACS-89

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT UNITS	PQL
BIOCHEMICAL OXYGEN DEMAND	EPA 405.1	06/27/01	LEB	<2 mg/L	2

PQL = Practical Quantitation Limit  
Results followed by the letter J are estimated concentrations.

NC DENR CERTIFICATIONS: DWQ - 96; PUBLIC WATER SUPPLY - 37724

LABORATORY DIRECTOR



8/22/01

## SW846 METALS

1

## INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Name: COMPUCHEM Contract: \_\_\_\_\_

Code: LIBRTY Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: QH1024

Matrix (soil/water): WATER Lab Sample ID: QH1024-1

Level (low/med): LOW Date Received: 06/27/01

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	58.5	B		P
7440-36-0	Antimony	2.4	B		P
7440-38-2	Arsenic	2.1	U		P
7440-39-3	Barium	104			P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	159000			P
7440-47-3	Chromium	0.90	B		P
7440-48-4	Cobalt	1.4	B		P
7440-50-8	Copper	1.6	B		P
7439-89-6	Iron	32.0	B		P
7439-92-1	Lead	1.1	B		P
7439-95-4	Magnesium	30600			P
7439-96-5	Manganese	16.6			P
7439-97-6	Mercury	0.64	U		CV
7440-02-0	Nickel	11.6			P
7440-09-7	Potassium	10100			P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	49800			P
7440-28-0	Thallium	3.5	U		P
7440-62-2	Vanadium	2.1	B		P
7440-66-6	Zinc	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: \_\_\_\_\_

Color After: COLORLESS Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8

6901B

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Method: 8260B

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QH1024

Matrix: (soil/water) WATER

Lab Sample ID: QH1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: QH1024-1A71

Level: (low/med) LOW

Date Received: 06/27/01

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/10/01

GC Column: SPL-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

74-87-3	Chloromethane	0.5	U
75-01-4	Vinyl Chloride	0.5	U
74-83-9	Bromomethane	0.5	U
75-00-3	Chloroethane	0.5	U
75-35-4	1,1-Dichloroethene	0.5	U
75-15-0	Carbon disulfide	0.5	U
67-64-1	Acetone	3	U
75-09-2	Methylene Chloride	0.2	JB 0.5
156-60-5	trans-1,2-Dichloroethene	0.5	U
75-34-3	1,1-Dichloroethane	0.5	U
156-59-2	cis-1,2-Dichloroethene	0.5	U
78-93-3	2-butanone	3	U
67-66-3	Chloroform	0.5	U
71-55-6	1,1,1-Trichloroethane	0.5	U
56-23-5	Carbon Tetrachloride	0.5	U
71-43-2	Benzene	0.5	U
107-06-2	1,2-Dichloroethane	0.5	U
79-01-6	Trichloroethene	0.5	U
78-87-5	1,2-Dichloropropane	0.5	U
75-27-4	Bromodichloromethane	0.5	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-10-1	4-Methyl-2-pentanone	3	U
108-88-3	Toluene	3.1	J
10061-02-6	trans-1,3-Dichloropropene	0.5	U
79-00-5	1,1,2-Trichloroethane	0.5	U
127-18-4	Tetrachloroethene	0.5	U
591-78-6	2-hexanone	3	U
124-48-1	Dibromochloromethane	0.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	0.5	U
108-38-3	m,p-Xylene	1	U
95-47-6	o-Xylene	0.5	U
100-42-5	Styrene	0.5	U

UJ

R

R

FORM I VOL

8/23/01

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Method: 8260B

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QH1024

Matrix: (soil/water) WATER

Lab Sample ID: QH1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: QH1024-1A71

Level: (low/med) LOW

Date Received: 06/27/01

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/10/01

GC Column: SPL-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

75-25-2-----	Bromoform	0.5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U
106-46-7-----	1,4-Dichlorobenzene	0.5	U
540-59-0-----	1,2-Dichloroethene (total)	0.5	U
1330-20-7-----	Xylene (total)	0.5	U

FORM I VOA

2  
8/23/01

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QH1024

Matrix: (soil/water) WATER

Lab Sample ID: QH1024-1

Sample wt/vol: 975 (g/mL) ML

Lab File ID: QH1024-1B64

Level: (low/med) LOW

Date Received: 06/27/01

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 06/28/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 06/29/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

SFC Cleanup: (Y/N) N pH: \_\_\_\_\_

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

111-44-4-----Bis(2-chloroethyl)ether\_\_\_\_\_  
106-44-5-----4-Methylphenol\_\_\_\_\_  
78-59-1-----Isophorone\_\_\_\_\_  
117-81-7-----bis(2-ethylhexyl)Phthalate\_\_\_\_

9.8 U  
10 U  
10 U  
6.2 U

6/29/01



FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QH1024

Matrix: (soil/water) WATER

Lab Sample ID: QH1024-1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: QH1024-1A70

Level: (low/med) LOW

Date Received: 06/27/01

Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 06/28/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/05/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

87-86-5-----Pentachlorophenol	1	U
-------------------------------	---	---

8/23/01

FORM I SV

1D  
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QH1024

Matrix: (soil/water) WATER

Lab Sample ID: QH1024-1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: \_\_\_\_\_

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 06/27/01

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 06/28/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 06/30/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

12674-11-2-----	Aroclor-1016
11104-28-2-----	Aroclor-1221
11141-16-5-----	Aroclor-1232
53469-21-9-----	Aroclor-1242
12672-29-6-----	Aroclor-1248
11097-69-1-----	Aroclor-1254
11096-82-5-----	Aroclor-1260

0.50	U
1.0	U
0.50	U
0.50	U
0.50	U
0.50	U
0.50	U

*8/23/01*

**APPENDIX B**

**EFFLUENT ANALYTICAL DATA**

**Severin Trent Laboratories (STL)**

**April 9, 2001 Compliance Sample  
Laboratory Results**

**Severin Trent Laboratories (STL)**

Job Number: 202783

## LABORATORY TEST RESULTS

Date: 04/28/2001

CUSTOMER: Montgomery Watson

PROJECT: AMER.CHEM.SUPPLY

ATTN: Peter Dorley

Customer Sample ID: Trip Blank  
 Date Sampled.....: 04/09/2001  
 Time Sampled.....: 14:00  
 Sample Matrix.....: Water

Laboratory Sample ID: 202783-2  
 Date Received.....: 04/10/2001  
 Time Received.....: 10:20

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Acetone	2	U	R	2	2	1.00000	ug/L	17203		04/12/01 1701	jdj
	2-Butanone (MEK)	2	U		2	2	1.00000	ug/L	17203		04/12/01 1701	jdj
	4-Methyl-2-pentanone (MIBK)	0.9	U		0.9	2	1.00000	ug/L	17203		04/12/01 1701	jdj
	2-Hexanone	1	U		1	2	1.00000	ug/L	17203		04/12/01 1701	jdj

\* In Description = Dry Wgt.

Page 3

STL

**APPENDIX C**

**ANALYTICAL DATA VALIDATED UNDER**

**NEW QUALITY ASSURANCE PROJECT PLAN (QAPP)**

**MARCH 2001 DRAFT**

**April 9, 2001 Compliance Sample  
Laboratory Results**

**Compuchem Laboratories**

PH IN WATER ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (Standard pH units)	REPORTING LIMIT (Standard pH units)
1.	EFFLUENT	QB1024-1	7.54	N/A

BRL = BELOW REPORTING LIMIT

Reviewed by/ID#:

R. Jones

1 2405

Date:

7/19/01

5/2/01



TOTAL SUSPENDED SOLIDS ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (mg/L)	REPORTING LIMIT (mg/L)
1.	EFFLUENT	QB1024-1	BRL	4

BRL = BELOW REPORTING LIMIT

Reviewed by/ID#: *[Signature]* 12405 Date: 4/19/01

*9/5/01*

# CHEMICAL & ENVIRONMENTAL TECHNOLOGY, INC.

## ENVIRONMENTAL ANALYTICAL SERVICES

### FINAL REPORT OF ANALYSES

TEST AMERICA  
Attn: CAROL YANDELL  
4004 BARRETT DRIVE  
SUITE 105  
RALEIGH, NC 27609-

REPORT DATE: 04/16/01

ACS-89

SAMPLE NUMBER- 183283    SAMPLE ID- TEST AMERICA EFFLUENT  
DATE SAMPLED- 04/09/01  
DATE RECEIVED- 04/10/01    SAMPLER- NOT SPECIFIED  
TIME RECEIVED- 1500    DELIVERED BY- SAM HARPER

SAMPLE MATRIX- WW  
TIME SAMPLED- 1400  
RECEIVED BY- SMC

Page 1 of 1

PROJECT NAME : ACS-89

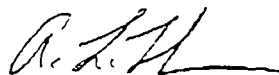
ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT UNITS	PQL
BIOCHEMICAL OXYGEN DEMAND	EPA 405.1	04/11/01	LEB	<2 mg/L	2

PQL = Practical Quantitation Limit

Results followed by the letter J are estimated concentrations.

NC DENR CERTIFICATIONS: DWQ - 96; PUBLIC WATER SUPPLY - 37724

LABORATORY DIRECTOR



9/5/8/01

## SW-846 METALS

1

## INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: \_\_\_\_\_

Lab Code: LIBRTY

Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SDG No.: QB1024Matrix (soil/water): WATERLab Sample ID: QB1024-1Level (low/med): LOWDate Received: 04/10/01% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	39.1	U		P
7440-36-0	Antimony	1.9	B		P
7440-38-2	Arsenic	2.1	U		P
7440-39-3	Barium	57.7			P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	101000			P
7440-47-3	Chromium	0.70	U		P
7440-48-4	Cobalt	1.7	B		P
7440-50-8	Copper	2.1	B		P
7439-89-6	Iron	216			P
7439-92-1	Lead	1.1	B		P
7439-95-4	Magnesium	27600			P
7439-96-5	Manganese	237			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	12.6			P
7440-09-7	Potassium	8790			P
7782-49-2	Selenium	2.3	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	47200			P
7440-28-0	Thallium	3.5	U		P
7440-62-2	Vanadium	0.54	B		P
7440-66-6	Zinc	4.7	B		P

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_

6380

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: QB1024-1A56

Level: (low/med) LOW

Date Received: 04/10/01

% Moisture: not dec.

Date Analyzed: 04/23/01

GC Column: J&B DB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

74-87-3	Chloromethane	0.5	U
75-01-4	Vinyl Chloride	0.5	U
74-83-9	Bromomethane	0.5	U
75-00-3	Chloroethane	0.5	U
75-35-4	1,1-Dichloroethene	0.5	U
75-15-0	Carbon disulfide	0.5	U
67-64-1	Acetone	3	U
75-09-2	Methylene Chloride	0.6	
156-60-5	trans-1,2-Dichloroethene	0.5	U
75-34-3	1,1-Dichloroethane	0.5	U
156-59-2	cis-1,2-Dichloroethene	0.5	U
78-93-3	2-butanone	3	U
67-66-3	Chloroform	0.5	U
71-55-6	1,1,1-Trichloroethane	0.5	U
56-23-5	Carbon Tetrachloride	0.5	U
71-43-2	Benzene	0.5	U
107-06-2	1,2-Dichloroethane	0.5	U
79-01-6	Trichloroethene	0.5	U
78-87-5	1,2-Dichloropropane	0.5	U
75-27-4	Bromodichloromethane	0.5	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-10-1	4-Methyl-2-pentanone	3	U
108-88-3	Toluene	0.5	U
10061-02-6	trans-1,3-Dichloropropene	0.5	U
79-00-5	1,1,2-Trichloroethane	0.5	U
127-18-4	Tetrachloroethene	0.5	U
591-78-6	2-hexanone	3	U
124-48-1	Dibromochloromethane	0.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	0.5	U
108-38-3	m,p-Xylene	1	U
95-47-6	o-Xylene	0.5	U
100-42-5	Styrene	0.5	U

FORM I VOA

9/8/01

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 25 (g/ml) ML

Lab File ID: QB1024-1A56

Level: (low/med) LOW

Date Received: 04/10/01

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 04/23/01

GC Column: J&B DB-624 ID: 0.32 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

75-25-2-----Bromoform	0.5	U	W
79-34-5-----1,1,2,2-Tetrachloroethane	0.5	U	
106-46-7-----1,4-Dichlorobenzene	0.5	U	
540-59-0-----1,2-Dichloroethene (total)	0.5	U	
1330-20-7-----Xylene (total)	0.5	U	

FORM I VOA

5/8/01

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 1100 (g/mL) ML

Lab File ID: QB1024-1B60

Level: (low/med) LOW

Date Received: 04/10/01

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 04/14/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/17/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

EPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

111-44-4-----Bis(2-chloroethyl) ether\_\_\_\_\_

8.7

U

106-44-5-----4-Methylphenol\_\_\_\_\_

9.1

U

78-59-1-----Isophorone\_\_\_\_\_

9.1

U

117-81-7-----bis(2-ethylhexyl) Phthalate\_\_\_\_\_

5.5

U

15/8/01

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 1100 (g/mL) ML

Lab File ID: QB1024-1B70

Level: (low/med) LOW

Date Received: 04/10/01

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 04/14/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/20/01

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

87-86-5-----Pentachlorophenol

0.11

J

J

5/8/01

1D  
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract: 3082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: QB1024

Matrix: (soil/water) WATER

Lab Sample ID: QB1024-1

Sample wt/vol: 1080 (g/mL) ML

Lab File ID: \_\_\_\_\_

Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 04/10/01

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 04/11/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 04/12/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

PC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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12674-11-2-----	Aroclor-1016	0.46	U
11104-28-2-----	Aroclor-1221	0.92	U
11141-16-5-----	Aroclor-1232	0.46	U
53469-21-9-----	Aroclor-1242	0.46	U
12672-29-6-----	Aroclor-1248	0.46	U
11097-69-1-----	Aroclor-1254	0.46	U
11096-82-5-----	Aroclor-1260	0.46	U

*5/8/01*